

Science - Year 6

Animals including Humans – Block 6AH

The Art of being Human

Session 5

Resource pack

Foods to put out on the tables

- **Fruit (4 apples, 2 bananas, blueberries (or other berries))**
- **Veg (1 small cabbage, 3 carrots, broccoli, courgette)**
- **A large chocolate bar**
- **A packet of cereal bars**
- **A box of cereal (with sugar) and puffed rice or Weetabix**
- **Dried fruit**
- **Packet of nuts (if not allowed nuts in your school then use the images)**
- **Bottle of fizzy water, a can of 'diet' pop and a can of normal pop**

Nutritional information for 'foods on the table'

Item	Sugar	Fat	Micro nutrients	Teacher discussion notes
Fruit	High	Low	High	Fruit is a healthy snack, but remind chn that it has a lot of fruit sugar (fructose) in it, so eating vast quantities is not as healthy as it may seem. A great snack.
Veg	Low	Low	High	Vegetables have much lower levels of naturally occurring sugar. A great snack.
Chocolate	High	High	Low	The amount of sugar in chocolate varies – very dark chocolate has a much lower amount of sugar and is nutritionally better. However, chocolate is a 'treat' food and should be eaten in moderation.
Cereal bars	High	High	Mid	Cereal bars may seem like a healthy option, but they are in fact very high in sugar and often have a lot of saturated fat (the bad fat!).
Cereal	High	Low	Mid	Lots of cereals (especially those marketed at children) have high levels of sugar. Porridge or cereal without sugar should always be the cereal of choice.
Dried fruit	High	Low	High	Dried fruit is nutritionally good, but has a very high level of fruit sugars and can contribute to tooth decay. A great snack in moderation.
Nuts	Low	High	High	Nuts may be high in fat, but it is the 'good' sort of fat. This is a great snack.
Can of drink	High	Low	Low	These drinks are very high in sugar and should be avoided.
Can of 'sugar free' drink	Low	Low	Low	Although these drinks don't have sugar in them they do have sweeteners like aspartame which some people believe affect our appetite and encourage us to eat more.
Water	Low	Low	Low	A great drink

Food images to put on tables if real food is not available



Food diaries

Give the first two columns of each diary to children to consider – the final column is for discussion

Meal	Food	Nutritional notes for teacher
Breakfast	Greek yoghurt with berries, water	Mainly filling meals and snacks with plenty of micronutrients and no additional sugar Quality protein Includes 'good' fats High fibre 5-a-day
Lunch	Chicken and vegetable wholemeal wrap, water	
Dinner	Homemade vegetable curry, brown rice	
Snacks	Boiled eggs, water Piece of fruit, nuts, water	

Meal	Food	Nutritional notes for teacher
Breakfast	Coco pops™, milk, banana fruit juice	A high level of sugar and salt and some bad fats Poorer quality protein Lower fibre 5-a-day, although more fruit than veg
Lunch	Cheese sandwich, Vegetable crisps, Apple, Cereal bar	
Dinner	Fish fingers, Mashed potatoes Carrots & sweetcorn	
Snacks	Salted nuts Flapjack and grapes	

Meal	Food	Nutritional notes for teacher
Breakfast	Crunchy nut cornflakes™, milk, glass of orange squash	A lot of sugar, salt and fat Low quality protein Low fibre 5-a-day not achieved
Lunch	Ham and cheese pizza, carton of juice	
Dinner	Sausages, chips and baked beans	
Snacks	Penguin biscuit, carton of juice Pop tart, glass of chocolate milk	

Meal	Food	Nutritional notes for teacher
Breakfast	Porridge, water	Filling meals and snacks with plenty of micronutrients and no additional sugar
Lunch	Roast chicken salad, water	
Dinner	Pork and vegetable stir fry, egg noodles	
Snacks	Crudités and hummus, water Greek yoghurt with berries, water	High quality protein Not fatty High fibre 5-a-day

Meal	Food	Nutritional notes for teacher
Breakfast	Cheerios™, milk, glass of orange squash	A high level of sugar and salt and some bad fats
Lunch	White bread tuna mayonnaise sandwich, crisps, fruit smoothie	
Dinner	Sausages, mash and peas	Poorer quality protein
Snacks	Piece of fruit, carton of juice Piece of fruit, carton of juice	5-a-day, although more fruit than veg

Meal	Food	Nutritional notes for teacher
Breakfast	Scrambled eggs, smoked salmon & asparagus water	Filling meals and snacks with plenty of micronutrients and no additional sugar
Lunch	Roast chicken salad, water	
Dinner	Roast beef with big portion of mixed green vegetables	High quality protein
Snacks	Crudités, nuts, water Coconut chunks, water	Includes 'good' fats High fibre 5-a-day

Meal	Food	Nutritional notes for teacher
Breakfast	Vegetable omelette, water	Filling meals and snacks with plenty micronutrients and no additional sugar
Lunch	Roast chicken salad, water	
Dinner	Pork chops, sweet potato mash & mixed green vegetables	
Snacks	Fruit, nuts, water Crudités with avocado dip, water	
		Includes 'good' fats
		High quality protein
		High fibre
		5-a-day

Effects of certain contents of foods on the body

Food or drink	Positive impacts on the body	Negative impacts on the body
Sugar	<ul style="list-style-type: none"> • Your body needs a small amount of sugar to help maintain blood sugar levels, but this will come naturally from a healthy diet and does not need to be actively included 	<ul style="list-style-type: none"> • Makes your organs fat. • Can cause obesity. • Can cause Type 2 Diabetes. • Negative impact on the heart. • Causes tense artery walls, something that can lead to high blood pressure and heart disease. • It has been suggested that too much sugar could cause your liver to create bad cholesterol as well as preventing your body's ability to clear it out. • Eating a high-sugar diet leaves your body feeling hungry, even when you're overeating.
Fat (saturated)	<ul style="list-style-type: none"> • Help with certain vitamin absorption • Help to keep blood sugar levels stable 	<ul style="list-style-type: none"> • Can cause obesity. • Causes an increase in bad cholesterol.
Fat (unsaturated)	<ul style="list-style-type: none"> • Reduces the amount of bad cholesterol and increases the amount of good cholesterol in the body • Makes you feel full up • Can help to protect against heart disease and stroke 	<ul style="list-style-type: none"> • Still has the potential to cause obesity in excess.
Salt	<ul style="list-style-type: none"> • Some salt in your diet maintains the correct level of electrolytes that ensures body processes work effectively • Salt helps to regulate blood pressure 	<ul style="list-style-type: none"> • Raises the amount of sodium in your bloodstream and as a result can prevent your kidneys removing water – this causes higher blood pressure and can damage the kidneys long term (kidney disease) which can result in toxic waste products building up in the body. • Arteries - The extra blood pressure caused by eating too much salt puts extra strain on the insides of your arteries. To cope with the extra strain, the tiny muscles in the artery walls become stronger and thicker. Yet this only makes the space inside the arteries smaller and raises your blood pressure even higher. This cycle of increasing blood pressure (which occurs slowly over a number of years) can ultimately lead to the arteries bursting or becoming so narrow that they then clog up entirely. When this happens, the organs of the body that were receiving the blood from the arteries become

		<p>starved of the oxygen and nutrients they need. This can result in the organs being damaged and can be fatal.</p> <ul style="list-style-type: none"> • Heart - The raised blood pressure caused by eating too much salt may damage the arteries leading to the heart. At first, it may cause a slight reduction in the amount of blood reaching the heart. This may lead to angina (sharp pains in the chest when being active). With this condition the cells in the heart don't work as well as they should because they are not receiving enough oxygen and nutrients. However, lowering blood pressure may help to alleviate some of the problems and reduce the risk of greater damage. • Higher blood pressure causes arteries to burst or become clogged which can result in a heart attack and can lead to dementia and/or stroke.
<p>Water (lack of)</p> <p>While there are generally no negative effects of drinking water, too little water (dehydration) can have a number of serious consequences</p>	<ul style="list-style-type: none"> • Keeps your body hydrated, ensuring that all systems within your body function effectively • Keeps your kidneys healthy • Keeps your skin healthy 	<ul style="list-style-type: none"> • Dehydration can cause headache, dryness and/or stickiness in the mouth, lips, tongue, and skin. Severe can cause fatigue, very dark or no urine, confusion, dizziness, and chest pain. • The water inside your body acts as a cooling mechanism which doesn't function properly when you don't drink enough. This can cause cramps, a faster pulse, dizziness, light-headedness, fatigue, and feelings of being too hot or cold. • Dehydration interferes with many bodily processes, and can affect the balance of electrolytes, vitamins and minerals. This can cause irregular heart rhythms, and convulsions and can even lead to kidney failure, loss of consciousness, low blood volume, and shock. • Can cause constipation, stomach ulcers and joint pain.

Food myths

We shouldn't eat any fat – wrong! We need to eat 'good' fats like those found in nuts, seeds, olive oil, avocado and oily fish.

Low fat food versions are always better – wrong! Manufacturers of such foods often compensate the impact on flavour by lowering the fat with additional sugar. Always check the ingredients!

Fruit juice is good for us – right and wrong! The form that juice takes means that the fruit sugar (fructose) has been released and can contribute towards tooth decay. It does contain vitamins, but however much you drink it only ever counts as one of your 5 a day and recommendations suggest no more than 150ml a day – that's not much!

Eating too much fat is the only dietary cause of heart disease – wrong! Scientists have suggested that sugar is also a huge contributing factor to heart disease.

As long as I do lots of exercise it doesn't matter what I eat – wrong! Often such an 'approach' can actually result in you eating more anyway! A poor diet will never be compensated by exercise. You need to do both.

Lifestyle chart

Aspect	Suggested daily behaviours
Cleanliness	
Teeth cleaning	
Being active	
Health (illness and injury)	
Screen time	
Sleeping	
Drinking enough water	
A good diet	
Plenty of exercise (and the right mix of exercise)	

Lifestyle chart (sample completed)

Aspect	Suggested daily behaviours
Cleanliness	<p><i>Wash body regularly</i></p> <p><i>Wash hair regularly</i></p> <p><i>Wear clean clothes</i></p>
Teeth cleaning	<p><i>Clean teeth effectively at least twice a day</i></p> <p><i>Visit dentist every 6 months</i></p>
Being active	<p><i>Walk in place of driving where possible</i></p> <p><i>Try not to sit for too much of the day</i></p>
Health (illness and injury)	<p><i>Look after yourself when ill – eat healthily, drink plenty of fluids, and rest</i></p> <p><i>Clean and dress any wounds to prevent infection</i></p> <p><i>Visit your doctor if your illness/injury requires such action</i></p>
Screen time	<p><i>Try and limit the amount of time spent sitting in front of a screen each day</i></p>
Sleeping	<p><i>Ensure you get the right amount of sleep each night</i></p> <p><i>Try to form habits so that bedtime and waking up time remain fairly constant</i></p>
Drinking enough water	<p><i>Drink plenty of water during the day</i></p>
A good diet	<p><i>Eat a varied and healthy diet</i></p> <p><i>Try and keep sugary snacks to a minimum</i></p>
Plenty of exercise (and the right mix of exercise)	<p><i>Exercise in some capacity each day</i></p> <p><i>Vary exercise types to include: moderate, vigorous, and muscle & bone strength building</i></p>

Reliable websites for information/research on diet

What should I be eating/drinking? Trust me I'm a Doctor, BBC

<http://www.bbc.co.uk/programmes/articles/1yV5MBkc2Y6pQSWyMgR21y2/what-should-i-be-eating-drinking>

Food and diet, NHS

<http://www.nhs.uk/livewell/goodfood/Pages/Goodfoodhome.aspx>

Heathy Eating, The British Heart Foundation

<https://www.bhf.org.uk/heart-health/preventing-heart-disease/healthy-eating>